

What is claimed is:

- ~~1. An anticode oligomer complementary to bcl-2 mRNA consisting of from 10-35 bases and comprising the nucleotide sequence TCTCCCAGCGTGCGCCAT (SEQ ID NO. 17).~~
- ~~2. An anticode oligomer, wherein said anticode oligomer is an antisense oligonucleotide complementary to a portion of the pre-mRNA encoding the bcl-2 gene.~~
3. The anticode oligomer of Claim 2, wherein said anticode oligomer is an antisense oligonucleotide complementary to a portion of the region of the splice acceptor site or splice donor site of the pre-mRNA encoding the bcl-2 gene.
- ~~4. An anticode oligomer, wherein said anticode oligomer is an antisense oligonucleotide complementary to a portion of the 5'-untranslated region of the bcl-2 mRNA.~~
5. The anticode oligomer of Claim 1, 2, 3 or 4, wherein said anticode oligomer contains at least one phosphorothioate and/or phosphoramidate modified nucleotide and is complementary to a portion of the pre-mRNA or mRNA encoding the bcl-2 gene.
6. The anticode oligomer of Claim 5, wherein said anticode oligomer is a phosphodiester/phosphorothioate chimera.
7. The anticode oligomer of Claim 6 wherein the oligonucleotide comprises at least 2 to 3 phosphorothioate linkages.
- ~~8. The method of treating a bcl-2 related disorder comprising administering an effective amount of an anticode oligomer, wherein said anticode oligomer hybridizes to the nucleic acid sequence of SEQ ID NO. 19.~~

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~~9.~~ A method of treating cancer comprising administering an effective amount of an anticodon oligomer, wherein said anticodon oligomer hybridizes to the nucleic acid sequence of SEQ ID NO. 19.

10. The method of Claim 8 or 9, wherein said one or more chemotherapeutic agents are administered in combination with said anticodon oligomer.

11. The method of Claim 8 or 9, wherein said combination increases the sensitivity of said disorders to chemotherapeutic agents.

12. The method of Claim 8 or 9, wherein said disorder is selected from the group comprising non-Hodgkin's lymphoma, prostate cancer, breast cancer, gastro-intestinal cancer or colon cancer.

13. The method of Claim 8 or 9 for treating a human.

14. A pharmaceutical composition comprising an amount of the anticodon oligomer of any of Claims 1-7 effective to prevent or inhibit a bcl-2 related disorder; and a pharmaceutically acceptable carrier.

~~15.~~ A method for increasing the sensitivity of tumor cells to chemotherapeutic agents, comprising administering to the tumor cells an anticodon oligomer, wherein said anticodon oligomer hybridizes to the nucleic acid sequence of SEQ ID NO. 19.

16. The method of Claim 15 wherein said cells express the human bcl-2 gene.

17. A method of killing tumor cells, wherein said cells express the human bcl-2 gene, comprising administering to the tumor cells one or more chemotherapeutic agents and an anticodon oligomer, wherein said anticodon oligomer hybridizes to the nucleic acid sequence of SEQ ID NO. 19.

18. The method of Claim 17 ~~wherein~~ said cells express the human bcl-2 gene.

19. The method as in any of Claims 15 to 18, wherein said anticodon oligomer hybridizes to the nucleic acid sequence TCTCCCAGCGTGCGCCAT (SEQ ID NO. 17).

20. The method as in any of Claims 15 to 18, wherein said chemotherapeutic agent comprises DTIC (decarbazine), Ara-C (cytosine arabinoside), MTX (methotrexate), taxol, cisplatin, etoposide, mitoxantrone, 2-chlorodeoxyadenosine, dexamethasone, mAMSA, hexamethyl melamine, mitoxantrone, antimetabolites, alkylating agents, plant alkaloids, antibiotics, and derivatives thereof.

21. The method of Claim 20 wherein said antimetabolite comprises methotrexate, 5-fluorouracil, 6-mercaptopurine, cytosine arabinoside, hydroxyurea, and 2-chlorodeoxyadenosine.

22. The method of Claim 20 wherein said alkylating agent comprises cyclophosphamide, melphalan, busulfan, cisplatin, paraplirin, chlorambucil, and nitrogen mustards.

23. The method of Claim 20 wherein said plant alkaloid comprises vincristine, vinblastine, and VP-6.

24. The method of Claim 20 wherein said antibiotic comprises doxorubicin (adriamycin), daunorubicin, mitomycin c, and bleomycin.